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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/065,384

10/11/2002

Jen-Shou Tseng

9501-US-PA

1022

31561

7590

02/24/2006

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE

7 FLOOR-1, NO. 100

ROOSEVELT ROAD, SECTION 2

TAIPEI, 100

TAIWAN

EXAMINER

LEE, CHEUKFAN

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 02/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/065,384	TSENG, JEN-SHOU	
	<b>Examiner</b>	<b>Art Unit</b>	
	Cheukfan Lee	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 October 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. Claims 1-22 are pending. Claims 1 and 12 are independent.
2. Claims 4, 5, 15, and 16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a light-guiding body that "may be incorporated" inside the light-guiding tubes 212 and 218, does not reasonably provide enablement for a light-guiding body that is incorporated inside the light-guiding tubes 212 and 218. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

Claims 4 and 15 each claim "a light-guiding body inside the first light-guiding tube", and claims 5 and 16 each claim "a light-guiding body inside the second light-guiding tube". The specification states at paragraph 0023 on page 5, "[A] light-guiding body 214 may also be incorporated inside the light-guiding tubes 212 and 218." The phrase "may be incorporated" does not mean "is incorporated". Further, it is unknown whether the thing that is incorporated inside the tubes 212 and 218 is a light-guiding body or something else.

3. The drawings are objected to because they do not show a light-guiding body inside the first and the second light-guiding tubes, which are essential elements of the claimed invention. See M.P.E.P., 37 CFR 1.83 (a).

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4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 6, 7, 10, and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsai et al. (U.S. Patent No. 5,780,829).

Regarding claim 1, Tsai et al. discloses a light-channeling apparatus for a scanning module having a light source (31) and a body casing, (Fig. 2), where the body casing has a light passage slit (where the arrow pointing to mirror 33 is). The apparatus comprises a first light-guiding tube (of light source 31) attached to the body casing, wherein the first light-guiding tube of the light source (31) is positioned between the light source (31) and a document (10), and a second light-guiding tube (above the slit where the arrow pointing to mirror 33 is located) attached to the body casing, wherein the second light-guiding tube is positioned between the document (10) and the light passage slit (where the arrow pointing to 33 is) (Fig. 2, col. 1, line 50 – col. 2, line 5).

Regarding claims 6 and 7, the first light-guiding tube of the light source (31) and the second light-guiding tube (above the arrow pointing to mirror 33) are shown to have a hollow interior (Fig. 2).

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Regarding claim 10, the first light-guiding tube of the light source (31) and the scanning module are fabricated as an integral unit (Fig. 2).

Regarding claim 11, the second light-guiding tube (above the arrow pointing to mirror 33) and the scanning module are fabricated as an integral unit (Fig. 2).

6. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. (U.S. Patent No. 5,780,829) in view of Imamura (U.S. Patent No. 4,769,718).

Regarding claims 2 and 3, Tsai et al. discussed for claim 1 does not disclose a reflective coating of the first and second light-guiding tubes. However, coating the interior walls of a light-guiding tube (3) of an original document scanner with a reflective coating to alter the reflection characteristic of the tube is taught by Imamura (Fig. 2, col. 6, line 58 – col. 7, line 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the concept of Imamura to apply a reflective coating to the interior sidewalls of the first and second light-guiding tubes of Tsai et al. in order to increase the reflectivity of the tubes.

7. Claims 4, 5 and 9, insofar as the claims are understood to have the light-guiding body incorporated inside the first and second light-guiding tubes, are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. (U.S. Patent No. 5,780,829) in view of Fukushima et al. (U.S. Patent No. 5,136,150).

Regarding claims 4 and 5, Tsai et al. discussed for claim 1 above does not disclose a light-guiding body inside the first light-guiding tube of the light source (31) or inside the second light-guiding tube (above the arrow pointing to 33) (Fig. 2). However, including a light-guiding body (31) inside a light-guiding tube (32) for guiding light emitted by a light source (50) to an original document (40) and including a light-guiding body (71) inside a light-guiding tube (72) for guiding light are taught by Fukushima et al. (Figs. 2 and 3a, col. 3, line 30 – col. 5, line 49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the concept of Fukushima et al. to employ a light-guiding body inside the first light-guiding tube and the second light-guiding tube of Tsai et al., in order to increase reflectivity inside the tubes.

Regarding claim 9, Tsai et al. does not disclose having the document end of the first-guiding tube of light source (31) and the document end of the second light-guiding tube (above the arrow pointing to mirror 33) fused together. Fukushima et al. discloses two light-guiding tubes (30 and 70) having a V-shape structure. The tubes are considered to have their ends fused together to form the V (Figs. 2 and 3a, col. 4, lines 29-32). The ends fused together are the ends of the tubes at the document side. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the concept of Fukushima et al. to employ a pair of light-guiding tubes of a V-shaped configuration as the first and second light-guiding tubes of Tsai et al. to reduce the number of parts of the apparatus.

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8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. (U.S. Patent No. 5,780,829) in view of Kerschner et al. (U.S. Patent No. 5,995,243).

Regarding claim 8, Tsai et al. discussed above for claim 1 does not disclose a collimating lens inside the first light-guiding tube of the light source (31 in Fig. 2).

However, employing a collimating lens in front of a light source to increase the light intensity of light from the light source to an original document is taught by Kerschner et al. (Fig. 5, col. 6, line 65 – col. 7, line 7). Please note the light source (40), collimating lens (46) and document (16). It would have been obvious to one of ordinary skill in the art at the time the invention was made use the concept of Kerschner et al. to place a collimating lens in front of the light source (31) and inside the first light-guiding tube of Tsai et al. in order to increase the light intensity of light illuminating the document.

9. Claims 12, 17, 18, 21, and 22 rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. (U.S. Patent No. 5,780,829).

Regarding claim 12, Tsai et al. (discussed for claim 1) discloses in the background art section a scanning module (Fig. 2) for scanning a document. The module comprises a body casing having a light passage slit (where the arrow pointing to mirror 33 is) thereon, a light source (31) attached to the body casing, a plurality of reflecting mirrors (33, 34 and 35) inside the body casing, a lens (16) inside the body casing, a light-sensing device (18), and a light-channeling apparatus joined to the body casing (upper left corner of Fig. 2), wherein the light-channeling apparatus includes a first light-guiding tube (tube of the light source 31) and a second light-guiding tube (tube

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above the arrow pointing to mirror 33) such that the first light-guiding tube is positioned between the light source (31) and the document (10) and the second light-guiding tube is positioned between the document (10) and the light passage slit (where the arrow pointing to the mirror 33 is).

The Fig. 2 scanning module of Tsai et al. differs from the claimed invention in that the module (Fig. 2) does not have the light-sensing device (18) disposed inside the body casing. However, Tsai et al. further discloses having the light-sensing device (transducer) positioned inside the body casing (housing) to lower the cost by eliminating the need to attach the light-sensing device (18) (to the outside of the housing) (Fig. 3, col. 2, lines 19-27). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to position the light-sensing device (18) inside the body casing of the scanning module of Tsai et al. to eliminate the need to attach the light-sensing device (18) outside the body casing and thus reduce cost as taught by Tsai et al. (col. 2, lines 19-27).

Regarding claims 17 and 18, the first light-guiding tube of the light source (31) and the second light-guiding tube (above the arrow pointing to mirror 33) are shown to have a hollow interior (Fig. 2).

Regarding claim 21, the first light-guiding tube of the light source (31) and the scanning module are fabricated as an integral unit (Fig. 2).



Regarding claim 22, the second light-guiding tube (above the arrow pointing to mirror 33) and the scanning module are fabricated as an integral unit (Fig. 2).

10. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. (U.S. Patent No. 5,780,829) in view of Imamura (U.S. Patent No. 4,769,718).

Regarding claims 13 and 14, Tsai et al. discussed for claim 12 does not disclose a reflective coating of the first and second light-guiding tubes. However, coating the interior walls of a light-guiding tube (3) of an original document scanner with a reflective coating to alter the reflection characteristic of the tube is taught by Imamura (Fig. 2, col. 6, line 58 – col. 7, line 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the concept of Imamura to apply a reflective coating to the interior sidewalls of the first and second light-guiding tubes of Tsai et al. in order to increase the reflectivity of the tubes.

11. Claims 15,16 and 20, insofar as the claims are understood to have the light-guiding body incorporated inside the first and second light-guiding tubes, are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. (U.S. Patent No. 5,780,829) in view of Fukushima et al. (U.S. Patent No. 5,136,150).

Regarding claims 15 and 16, Tsai et al. discussed for claim 12 above does not disclose a light-guiding body inside the first light-guiding tube of the light source (31) or inside the second light-guiding tube (above the arrow pointing to 33) (Fig. 2). However,

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including a light-guiding body (31) inside a light-guiding tube (32) for guiding light emitted by a light source (50) to an original document (40) and including a light-guiding body (71) inside a light-guiding tube (72) for guiding light are taught by Fukushima et al. (Figs. 2 and 3a, col. 3, line 30 – col. 5, line 49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the concept of Fukushima et al. to employ a light-guiding body inside the first light-guiding tube and the second light-guiding tube of Tsai et al., in order to increase reflectivity inside the tubes.

Regarding claim 20, Tsai et al. does not disclose having the document end of the first-guiding tube of light source (31) and the document end of the second light-guiding tube (above the arrow pointing to mirror 33) fused together. Fukushima et al. discloses two light-guiding tubes (30 and 70) having a V-shape structure. The tubes are considered to have their ends fused together to form the V (Figs. 2 and 3a, col. 4, lines 29-32). The ends fused together are the ends of the tubes at the document side. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the concept of Fukushima et al. to employ a pair of light-guiding tubes of a V-shaped configuration as the first and second light-guiding tubes of Tsai et al. to reduce the number of parts of the apparatus.

12. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsai et al. (U.S. Patent No. 5,780,829) in view of Kerschner et al. (U.S. Patent No. 5,995,243).

Regarding claim 19, Tsai et al. discussed above for claim 12 does not disclose a collimating lens inside the first light-guiding tube of the light source (31 in Fig. 2).

However, employing a collimating lens in front of a light source to increase the light intensity of light from the light source to an original document is taught by Kerschner et al. (Fig. 5, col. 6, line 65 – col. 7, line 7). Please note the light source (40), collimating lens (46) and document (16). It would have been obvious to one of ordinary skill in the art at the time the invention was made use the concept of Kerschner et al. to place a collimating lens in front of the light source (31) and inside the first light-guiding tube of Tsai et al. in order to increase the light intensity of light illuminating the document.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Onishi et al. (U.S. Patent No. 6,714,323), "Image reading apparatus and light conductor used for the same", Figs. 1 and 8, columns 5, 6, and 9-14

Paritsky et al. (U.S. Patent No. 6,239,865), "Sensor and method for measuring distances to, and/or physical properties of, a medium", Figs. 1 and 2, col. 2

Sobol et al. (U.S. Patent No. 5,463,217), "Adapter for scanning transparencies with a reflective document scanner", Fig. 1, light-guiding tube 108

Tang (U.S. Patent No. 6,507,416), "Brightness adjustable chassis for a scanner", light-guiding device (5214)

Hsu (U.S. Patent No. 6,249,368), "Light source module for optical scanner"

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Shirata et al. (U.S. Patent No. 5,019,897), "Scanning apparatus for reading a color image", element 13

Hosaka (U.S. Patent No. 4,716,456), "CCD color image sensor with a light source having a spectrum distribution characteristic having peaks at 470 nm and 590 nm and having no wavelengths above 700 nm", Figs. 1, 5 and 8, element 12

Hosaka (U.S. Patent No. 4,707,615), "Solid state image sensor", elements 21a and 21b

Ott et al. (U.S. Patent No. 6,028,682), "Scanning device for pixel-by-pixel photoelectric measurement of a measured object", Fig. 3, light pipes 121 and 122, and lenses 123 and 124

Takeuchi et al. (U.S. Patent No. 5,737,096), "Light illumination assembly having a tapered light guide plate for an optical reading unit", light-guiding tube 5

Mir (U.S. Patent No. 4,366,499), "Electronic color imaging apparatus having improved color control device", Fig. 4, light-guiding 78

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cheukfan Lee whose telephone number is (571) 272-7407. The examiner can normally be reached on 9:30 a.m. to 6:00 p.m., Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on (571) 272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cheukfan Lee  
February 15, 2006



Cheukfan Lee